

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3749	208/113,120.01,106,120.35,120.15.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/19 23:18
L2	1925	502/202,224,225,229.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/19 23:18
L3	0	(L1 or L2) and ((silicon adj dioxide or aluminum adj oxide or ferric adj oxide or calcium adj oxide or (boron or titanium) adj \$2oxide) same (alkane or cycloalkane)).clm.	US-PGPUB	OR	ON	2007/12/19 23:19
L4	0	((hydrogenation or hydrocracking) with ambient near temperature near pressure).clm.	US-PGPUB	OR	ON	2007/12/19 23:20
S1	20	US-3867308-\$.DID. OR US-3957689-\$.DID. OR US-4427539-\$.DID. OR US-4746419-\$.DID. OR US-4940531-\$.DID. OR US-4946581-\$.DID. OR US-6225255-\$.DID. OR US-6342152-\$.DID. OR US-6511933-\$.DID. OR US-6530965-\$.DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 13:43

## EAST Search History

S2	238	("2378530"   "2378531"   "2462891"   "2472723"   "2485626"   "2763622"   "2800433"   "3252757"   "3252889"   "3277018"   "3293192"   "3296151"   "3406124"   "3414525"   "3458454"   "3503873"   "3566400"   "3592778"   "3609103"   "3676330"   "3692697"   "3743594"   "3867308"   "3887455"   "3956105"   "3957681"   "4115251"   "4119531"   "4153535"   "4167471"   "4182693"   "4206039"   "4218307"   "4225421"   "4243514"   "4263128"   "4309274"   "4311579"   "4325809"   "4325817"   "4328091"   "4341625"   "4367165"   "4395328"   "4395329"   "4411824"   "4414141"   "4434048"   "4435278"   "4454026"   "4454244"   "4458026"   "4459371"   "4465588"   "4495067"   "4497902"   "4522937"   "4530754"   "4549957"   "4562295"   "4613428"   "4636484"   "4657664"   "4740292"   "4757041"   "4837396"   "4943545"   "4946814"   "5001097"   "5002653"   "5006497"   "5009771"   "5053374"   "5055437"   "5079202"   "5126296"   "5141909"   "5164073"   "5174888"   "5179054"   "5179059"   "5219814"   "5316996"   "5342507"   "5364516"   "5430000"   "5453411"   "5468700"   "5510560"   "5551956"   "5648589"   "5741751"   "5976351"   "6001886"   "6036473"   "6183629").PN. OR ("3867308"   "3957689"   "4427539"   "4746419"   "4940531"   "4946581"   "6225255"   "6342152"   "6511933"   "6530965").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/16 19:43
S3	9	208/113,120.01,106,120.35,120.15. ccls. and 502/202,224,225,229.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/16 19:45
S4	3660	208/113,120.01,106,120.35,120.15. ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/16 19:45
S5	1872	502/202,224,225,229.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/16 19:47

## EAST Search History

S6	0	S1 and S3	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/16 19:45
S7	3	(S4 or S5) and silicon adj dioxide same aluminum same ferric same calcium same (boron or titanium)	US-PGPUB; USPAT; USOCR	OR	OFF	2007/10/14 17:01
S8	9	(S4 or S5) and silicon same aluminum same ferric same calcium same (boron or titanium)	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 15:36
S9	5	(S4 or S5) and ferric adj halide	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/16 20:21
S10	0	S1 and Blaine	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/16 20:27
S11	1	S5 and Blaine	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/16 20:30
S12	653	Blaine same particle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/16 20:27
S13	505	Blaine with particle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 12:06
S14	76	"3000" with Blaine with particle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/16 20:28

## EAST Search History

S15	2	S4 and Blaine	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/16 20:30
S16	0	S2 and Blaine	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/16 20:30
S17	34	Blaine with particle with mm	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 14:20
S18	20	US-3867308-\$.DID. OR US-3957689-\$.DID. OR US-4427539-\$.DID. OR US-4746419-\$.DID. OR US-4940531-\$.DID. OR US-4946581-\$.DID. OR US-6225255-\$.DID. OR US-6342152-\$.DID. OR US-6511933-\$.DID. OR US-6530965-\$.DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/01 15:31
S19	0	S18 and fine adj particles	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 13:54
S20	4	S18 and fine	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 13:58
S21	1	S18 and fine same water	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 13:55

## EAST Search History

S22	1	S18 and fine and water with (particles or powder)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 13:56
S23	2	S18 and powder	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 13:58
S24	0	S18 and particle with mm	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 13:58
S25	11	S18 and particle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 14:05
S26	4	S18 and particle with water	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 14:06
S27	0	S18 and "cm2/g"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 14:07
S28	0	S18 and "cm^2/g"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 14:07

## EAST Search History

S29	1	S18 and "cm"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 14:07
S30	0	S18 and "cm\$4"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 14:08
S31	10	"3000" with Blaine with mm	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/17 14:20
S32	3660	208/113,120.01,106,120.35,120.15. ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 11:14
S33	1874	502/202,224,225,229.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 11:14
S34	47	(S32 or S33) and heavy with (hydrocarbon or oil) and catalyst with (fluid or particle or powder) with naphtha	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 11:49
S35	4	(S32 or S33) and heavy with (hydrocarbon or oil) and catalyst with (fluid or particle or powder) with \$2mixed with naphtha	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 11:15
S36	2	(S32 or S33) and heavy with (hydrocarbon or oil) and catalyst with (fluid or particle or powder) with naphtha with water	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 11:50
S37	0	(S32 or S33) and heavy with (hydrocarbon or oil) and catalyst with (fluid or particle or powder) with diesel with water	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 11:50
S38	4	(S32 or S33) and heavy with (hydrocarbon or oil) and catalyst with (fluid or particle or powder) with diesel	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 11:50

## EAST Search History

S39	12	(S32 or S33) and heavy with (hydrocarbon or oil) and catalyst with (fluid or particle or powder) same (diesel or naphtha) with water	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 11:56
S40	12	(S32 or S33) and heavy with (hydrocarbon or oil or feed) and catalyst with (fluid or particle or powder) same (diesel or naphtha) with water	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 11:56
S41	15	(S32 or S33) and catalyst with (fluid or particle or powder) same (diesel or naphtha) with water	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 11:57
S42	16	(S32 or S33) and catalyst with (fluid or fluidiz\$4 or particle or powder) same (diesel or naphtha) with water	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 11:57
S43	20	US-3867308-\$.DID. OR US-3957689-\$.DID. OR US-4427539-\$.DID. OR US-4746419-\$.DID. OR US-4940531-\$.DID. OR US-4946581-\$.DID. OR US-6225255-\$.DID. OR US-6342152-\$.DID. OR US-6511933-\$.DID. OR US-6530965-\$.DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/18 16:09
S44	0	S43 and cement same volcanic adj ash	USPAT	OR	OFF	2006/08/18 16:10
S45	0	S43 and cement and volcanic adj ash	USPAT	OR	OFF	2006/08/18 16:09
S46	0	S43 and cement	USPAT	OR	OFF	2006/08/18 16:10
S47	0	S43 and volcanic adj ash	USPAT	OR	OFF	2006/08/18 16:09
S48	0	S43 and ash	USPAT	OR	OFF	2006/08/18 16:10
S49	0	S43 and ash	USPAT; USOCR	OR	OFF	2006/08/18 16:10
S50	0	S43 and cement	USPAT; USOCR	OR	OFF	2006/08/18 16:11
S51	3660	208/113,120.01,106,120.35,120.15. ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:12
S52	1874	502/202,224,225,229.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:12
S53	0	(S51 or S52) and cement same volcanic adj ash	USPAT; USOCR	OR	OFF	2006/08/18 16:12
S54	180	cement same volcanic adj ash	USPAT; USOCR	OR	OFF	2006/08/18 16:12

## EAST Search History

S55	1	(S51 or S52) and cement same volcanic adj ash	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:13
S56	1	(S51 or S52) and portland adj cement and volcanic adj ash	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:15
S57	5	(S51 or S52) and portland adj cement	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:14
S58	94	portland adj cement same volcanic adj ash	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:15
S59	7	portland adj cement same volcanic adj ash same catalyst	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:17
S60	8	portland adj cement same catalyst and volcanic adj ash same catalyst	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:18
S61	438	portland adj cement same catalyst	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:17
S62	33	portland adj cement same catalyst and ash same catalyst	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:24
S63	18	portland adj cement same catalyst and (scoria or basalt or pyroclastic adj rock or tuff or tuffstone or volcanic adj glass or pumice or \$5mafic adj rock or silica near zeolite) same catalyst	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:37
S64	73	portland adj cement and scoria	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 16:35
S65	1	(S51 or S52) and scoria	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:39
S66	5	hydrogenat\$4 and scoria	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 16:40
S67	5	hydrogenat\$4 and scoria	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/08/18 16:40



## EAST Search History

S68	64	crack\$4 and scoria	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/08/18 16:41
S69	32	hydrocarbon and scoria	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/08/18 16:43
S70	498	scoria	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/08/18 16:50
S71	95	scoria with pumice	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/08/18 16:50
S72	0	crack\$4 with hydrogenation with ambient with temperature	USPAT	OR	OFF	2006/08/18 19:19
S73	0	crack\$4 with hydrogenation with ambient with temperature	USPAT	OR	ON	2006/08/18 19:20
S74	11	crack\$4 with hydrogenation same ambient with temperature	USPAT	OR	ON	2006/08/18 19:21
S75	1865	hydrogenation same ambient with temperature	USPAT	OR	ON	2006/08/18 19:22
S76	593	hydrogenation with ambient near temperature	USPAT	OR	ON	2006/08/18 19:22
S77	112	hydrogenation with ambient near temperature near pressure	USPAT	OR	ON	2007/12/19 23:20
S78	2	hydrogenation with ambient near temperature same (hydrocrack\$4 or crack\$4)	USPAT	OR	ON	2006/08/18 19:22
S79	3660	208/113,120.01,106,120.35,120.15. ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 15:17
S80	0	S79 and hydrogenation with ambient near temperature near pressure	USPAT	OR	ON	2006/08/18 19:23

## EAST Search History

S81	1874	502/202,224,225,229.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/08/18 19:23
S82	0	S81 and hydrogenation with ambient near temperature near pressure	USPAT	OR	ON	2006/08/18 19:23
S83	1	S79 and hydrogenation with ambient near temperature near pressure	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:24
S84	2	S79 and crack\$4 with ambient near temperature near pressure	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:26
S85	12	S79 and crack\$4 with ambient near temperature	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:28
S86	832	crack\$4 with ambient near temperature	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:30
S87	1	208/131.ccls. and crack\$4 with ambient near temperature	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:30
S88	308	208/131.ccls. and crack\$4 with temperature	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:31
S89	29	208/131.ccls. and crack\$4 with temperature with atmospheric	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:32
S90	20	US-3867308-\$.DID. OR US-3957689-\$.DID. OR US-4427539-\$.DID. OR US-4746419-\$.DID. OR US-4940531-\$.DID. OR US-4946581-\$.DID. OR US-6225255-\$.DID. OR US-6342152-\$.DID. OR US-6511933-\$.DID. OR US-6530965-\$.DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/18 19:32
S91	3	S90 and crack\$4 with temperature	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:40
S92	15	crack\$4 near ambient adj temperature	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:40
S93	823	(crack\$4 or hydrocrack\$4) with ambient adj temperature	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:41

## EAST Search History

S94	14	hydrocrack\$4 with ambient adj temperature	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:42
S95	418	cracking with ambient adj temperature	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/18 19:42
S96	203	API with cracking	USPAT	OR	OFF	2006/08/19 11:57
S97	1	API near cracking	USPAT	OR	OFF	2006/08/19 11:57
S98	3	API near crack\$4	USPAT	OR	OFF	2006/08/19 11:58
S99	58	API with crack\$4 with high\$2	USPAT	OR	OFF	2006/08/19 11:58
S100	20	US-3867308-\$.DID. OR US-3957689-\$.DID. OR US-4427539-\$.DID. OR US-4746419-\$.DID. OR US-4940531-\$.DID. OR US-4946581-\$.DID. OR US-6225255-\$.DID. OR US-6342152-\$.DID. OR US-6511933-\$.DID. OR US-6530965-\$.DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/01 15:32
S101	0	S100 and surface adj area with weight with ratio	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/01 15:33
S102	0	S100 and surface adj area with ratio	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/01 15:32
S103	0	S100 and blaine	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/01 15:32
S104	2	S100 and surface adj area with weight	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/01 15:33

## EAST Search History

S10 5	20	US-3867308-\$.DID. OR US-3957689-\$.DID. OR US-4427539-\$.DID. OR US-4746419-\$.DID. OR US-4940531-\$.DID. OR US-4946581-\$.DID. OR US-6225255-\$.DID. OR US-6342152-\$.DID. OR US-6511933-\$.DID. OR US-6530965-\$.DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 16:34
S10 6	6	S105 and surface adj area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 14:30
S10 7	1	S105 and aluminum adj oxide	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 14:30
S10 8	1	S107 and (calcium or Ca)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 14:31
S10 9	0	S108 and (silicon or Si)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 14:32
S11 0	1	S108 and (iron or Fe or Ferric)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 14:32
S11 1	1	S110 and (titanium or Ti)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 14:33

## EAST Search History

S11 2	9	208/113,120.01,106,120.35,120.15. ccls. and 502/202,224,225,229.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 14:43
S11 3	0	S112 and oxide same aluminum same ferric same silicon same titanium same calcium same transition adj metal with salt	USPAT	OR	OFF	2007/02/04 14:43
S11 4	3694	208/113,120.01,106,120.35,120.15. ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 14:43
S11 5	0	S114 and oxide same aluminum same ferric same silicon same titanium same calcium same transition adj metal with salt	USPAT	OR	OFF	2007/02/04 14:43
S11 6	1889	502/202,224,225,229.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 14:43
S11 7	0	S116 and oxide same aluminum same ferric same silicon same titanium same calcium same transition adj metal with salt	USPAT	OR	OFF	2007/02/04 14:43
S11 8	0	S116 and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca) same transition adj metal with salt	USPAT	OR	ON	2007/02/04 14:44
S11 9	1	(S116 or S114) and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca) same transition adj metal with salt	US-PGPUB; USPAT	OR	ON	2007/02/04 16:38
S12 0	16	(S116 or S114) and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 14:54
S12 1	11	(S116 or S114) and conver\$5 with hydrocarbon and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 16:44
S12 2	23	(S116 or S114) and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 15:01
S12 3	0	S105 and S122	US-PGPUB; USPAT	OR	ON	2007/02/04 14:55

## EAST Search History

S12 4	4	(S116 or S114) and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) with dioxide same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 15:03
S12 5	4	(S116 or S114) and oxide same (ferric or iron or Fe) same (silicon or Si) with dioxide same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 15:12
S12 6	3	S114 and oxide same (ferric or iron or Fe) same (silicon or Si) with dioxide same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 15:17
S12 7	2781	208/113,120.01,120.25,120.35,120.1.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 15:18
S12 8	2	S127 and oxide same (ferric or iron or Fe) same (silicon or Si) with dioxide same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 15:17
S12 9	13	208/120.01.ccls. and 208/120.25.ccls. and 208/120.35.ccls. and 208/120.1.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 15:18
S13 0	10	(S114 or S116) and silicon same aluminum same ferric same calcium same oxide	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/04 15:37
S13 1	14	("3644557").URPN.	USPAT	OR	OFF	2007/02/04 16:22
S13 2	171	conver\$5 with hydrocarbon and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 16:28
S13 3	0	conver\$5 with heavy adj hydrocarbon and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca) same wt%	US-PGPUB; USPAT	OR	ON	2007/02/04 16:25
S13 4	10	conver\$5 with heavy adj hydrocarbon and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 16:25
S13 5	12	conver\$5 with hydrocarbon and oxide with (aluminum or Al) same oxide with (ferric or iron or Fe) same dioxide with (silicon or Si) same (titanium or Ti) same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 16:29

## EAST Search History

S13 6	0	S105 and cement and portland adj ash	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 16:34
S13 7	0	S105 and portland	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 16:34
S13 8	1	S114 and portland adj cement and volcanic adj ash	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 16:36
S13 9	1	S116 and portland adj cement and volcanic adj ash	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/19 23:17
S14 0	2	conver\$5 with hydrocarbon and portland adj cement and volcanic adj ash	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 16:37
S14 1	309	conver\$5 with hydrocarbon and portland adj cement and ash	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 16:38
S14 2	6	conver\$5 with heavy adj hydrocarbon and portland adj cement and ash	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 16:37
S14 3	1	(S116 or S114) and S141	US-PGPUB; USPAT	OR	ON	2007/02/04 16:39
S14 4	4084	portland adj cement and ash	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/04 16:38
S14 5	2	(S116 or S114) and S144	US-PGPUB; USPAT	OR	ON	2007/02/04 16:43
S14 6	3	(S116 or S114) and portland adj cement	US-PGPUB; USPAT	OR	ON	2007/02/04 16:42
S14 7	1	(S116 or S114) and scoria	US-PGPUB; USPAT	OR	ON	2007/02/04 16:43
S14 8	1	(S116 or S114) and volcanic adj ash	US-PGPUB; USPAT	OR	ON	2007/02/04 16:43
S14 9	60	(S116 or S114) and pumice	US-PGPUB; USPAT	OR	ON	2007/02/04 16:43
S15 0	2	S149 and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca)	US-PGPUB; USPAT	OR	ON	2007/02/04 17:21

## EAST Search History

S15 1	2	S149 and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 16:45
S15 2	1	hydrocarbon with conver\$5 and scoria and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 16:47
S15 3	2	hydrocarbon with conver\$5 and scoria	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 16:46
S15 4	9	hydrocarbon with conver\$5 and portland adj cement and oxide same (aluminum or Al) same (ferric or iron or Fe) same (silicon or Si) same (titanium or Ti) same (calcium or Ca)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 16:49
S15 5	1	208/113.ccls. and portland adj cement	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 16:50
S15 6	409	hydrocarbon with crack\$4 and portland adj cement	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 16:50
S15 7	5	hydrocarbon with crack\$4 and portland adj cement and volcanic adj ash	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/04 16:51
S15 8	0	S105 and halide	US-PGPUB; USPAT	OR	ON	2007/02/04 18:21



## EAST Search History

S15 9	5	(S114 or S116) and cupric adj halide	US-PGPUB; USPAT	OR	ON	2007/02/04 18:22
S16 0	12	hydrocarbon with conver\$5 and cupric adj halide	US-PGPUB; USPAT	OR	ON	2007/02/04 18:23
S16 1	54	hydrocarbon with conver\$5 and (cupric or ferric or cobalt or ferrous) adj halide	US-PGPUB; USPAT	OR	ON	2007/02/04 18:24
S16 2	1	S112 and (cupric or ferric or cobalt or ferrous) adj halide	US-PGPUB; USPAT	OR	ON	2007/12/19 23:17
S16 3	1	S112 and (cupric or ferric or cobalt or ferrous) with halide	US-PGPUB; USPAT	OR	ON	2007/02/04 18:32
S16 4	5	S114 and (cupric or ferric or cobalt or ferrous) with halide	US-PGPUB; USPAT	OR	ON	2007/02/04 18:32
S16 5	3735	208/113,120.01,106,120.35,120.15. ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/10/14 17:02
S16 6	1919	502/202,224,225,229.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/10/14 17:02
S16 7	682	(S165 or S166) and (silicon adj dioxide or aluminum adj oxide or ferric adj oxide or calcium adj oxide or (boron or titanium) adj \$2oxide)	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/19 23:18